ONR BAA Announcement # 05-010



FY06 BASIC AND APPLIED RESEARCH IN UNDER SEA MEDICINE BROAD AGENCY ANNOUNCEMENT (BAA)

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2). A formal Request for Proposals (RFP), solicitation, and/or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to select for award all, some, or none of the proposals in response to this announcement. The ONR reserves the right to fund all, some, or none of the proposals received under this BAA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

I. GENERAL INFORMATION

1. Agency Name -

Office of Naval Research, Ballston Centre, Tower One 800 N. Quincy Street Arlington, VA 22217-5660

2. Research Opportunity Title –

Basic and Applied Research in Undersea Medicine

3. Research Opportunity Number -

ONR BAA 05-010

4. Response Date –

Pre-proposals: 11 APR 2005

Full Proposals: 27 JUN 2005

5. Research Opportunity Description -

The Office of Naval Research (ONR 341) is soliciting pre-proposals and proposals in the following topic area within the Medical Discovery and Invention program. This program includes basic research and applied research components.

Undersea Medicine. The field of Undersea Medicine covers a broad area of research topics in need of multidisciplinary approaches to understanding basic mechanisms and developing solutions. Investigators in such research disciplines as molecular biology, immunology, biochemistry, physiology, stress physiology, environmental physiology, neuroscience, psychology, computational fluid dynamics, and others are invited and encouraged to bring their expertise to bear on the issues outlined below. The goal of this effort is to encourage new thinking that will lead to the elucidation of the physiological and biochemical (molecular) mechanisms underlying the effects of stressors experienced by Navy and Marine Corps divers and Navy submarine personnel. Research proposals in the following areas are requested:

- 1) studies of the pathophysiology of decompression sickness (DCS) and arterial gas embolism (AGE), with an emphasis on characterizing a) cellular (gene activation) and molecular (enzymes, receptors or signaling systems) interactions with nitrogen gas emboli, b) how these interactions influence DCS/AGE risk (including molecular and cellular pathology), c) methods to improve prediction and diagnosis of DCS/AGE using non-invasive imaging techniques and/or by use of specific cellular and molecular processes, d) improved therapeutic (non-recompressive) interventions to mitigate DCS and AGE, e) novel methods to remove excess gases from tissues and f) greater understanding of how exposure to thermal stress can influence DCS risk, f) mathematical modeling of fluid dynamics that may influence DCS incidence;
- 2) studies to elucidate the cellular (gene activation) and molecular (enzymes, receptors or signaling systems) pathology of hyperbaric oxygen toxicity (HBO) to include: a) determination of those specific perturbations of metabolic processes by hyperbaric oxygen that are demonstrably and causally related to HBO (using the tools of metabolomics, proteomics, and genomics, and leading to a functional understanding of these responses at the molecular and cellular level), b) molecular and cellular details of the pathology associated with HBO, c) studies to develop prophylactic therapeutics for HBO toxicity (e.g., central nervous system, pulmonary, and ocular pathology) and d) methods to detect in real time the development of oxidative injury in situ;

- 3) studies to elucidate the acute effects of heat and cold stress on performance as well as the physiologic adaptive mechanisms to heat and cold stress, including the mechanisms of these responses at the cellular (gene activation) and molecular (enzymes, receptors and signaling systems) level;
- 4) the effects of high and low frequency sound on human divers at the organism, organ, cellular, and molecular levels;
- 5) the identification and mitigation of operational stressors, including an understanding of these stressors at the molecular, cellular and pharmacologic level, experienced by submariners, including technologies to improve operator performance in submarines in the littoral battle space and to improve the survival of submariners during submarine rescue operations.

In order to foster the development of young investigators in the field, up to two of the awards under this program may be Postdoctoral Awards (see #7 - *Instrument Type(s)* for details). Pre-proposals and Proposals submitted designated as "Postdoctoral" will be evaluated (using the same criteria as Primary Awards) as a separate category. Available funds not applied to Postdoctoral Awards will be applied to Primary Awards.

It is not the intent of this solicitation to establish new facilities; investigators should be able to demonstrate the required research capability and the necessary facilities. Pre-proposals and proposals whose main objectives are to conduct analyses, literature reviews, or program evaluations are not encouraged.

6. Point(s) of Contact -

Questions of a technical nature shall be directed to the cognizant Technical Point of Contact, as specified below:

Science and Technology Point of Contact:

Point of Contact Name: CAPT Charles Auker Point of Contact Occupation Title: Program Officer

Division Title: Medical and Biological Science and Technology Division

Division Code: ONR Code 341 Address: Office of Naval Research

Ballston Center Tower One, Room 817

800 N. Quincy St.

Arlington, VA 22217-5660

Telephone Number: 703-696-5268 Facsimile Number: 703-696-1212 Email Address: aukerc@onr.navy.mil

Questions of a business nature shall be directed to the cognizant Contract Specialist, as specified below:

Business Point of Contact:

Point of Contact Name: Ms. Mary Helen Moore

Point of Contact Occupation Title: Contract Specialist Division Title: Contract & Grants Awards, Management

Division Code: Code ONR 254 Address: Office of Naval Research Ballston Center Tower One

800 N. Quincy St.

Arlington, VA 22217-5660 Telephone Number: (703)-588-0471 Facsimile Number: (703)-696-3365

Facsimile Number: (703)-696-3365 Email Address: moorem@onr.navv.mil

7. Instrument Type(s) -

a) Primary Awards: ONR anticipates that basic research (6.1) and applied research (6.2) funding will be available to make awards. Awards will primarily be in the form of grants (Universities) and cost-plus-fixed-fee (CPFF) contracts. However, the Government reserves the right to award cooperative agreements or other transaction agreements to appropriate parties, should the situation warrant use of an instrument other than a grant or contract.

b) Postdoctoral Awards: ONR anticipates that basic research (6.1) and applied research (6.2) funding will be available to make a maximum of two (2) postdoctoral awards. Each postdoctoral award will have a maximum amount of \$115K per year (including indirect costs) for no longer than 3 years. Awards are made to Postdoctoral Associates (within 5 years of the doctorate). Postdoctoral Awards will primarily be in the form of grants (Universities) and cost-plus-fixed-fee (CPFF) contracts. However, the Government reserves the right to award cooperative agreements or other transaction agreements to appropriate parties, should the situation warrant use of an instrument other than a grant or contract.

Submission of either primary or postdoctoral pre-proposals and full proposals should follow the same guidelines (dates, format) for submission outlined in the following section. In addition, postdoctoral full proposal submissions, if submitted by the postdoctoral candidate, should be accompanied by a letter from a suitable mentor indicating agreement to serve in that capacity.

8. Catalog of Federal Domestic Assistance (CFDA) Numbers -

12.300

9. Catalog of Federal Domestic Assistance (CFDA) Titles -

DOD Basic and Applied Scientific Research

10. Other Information – N/A

II. AWARD INFORMATION

- *Total Amount of Funding Available: \$900,000.00
- *Anticipated Number of Awards: 2-5
- *Anticipated Range of Individual Award Amounts: \$100,000.00-\$350,000.00 annually
- *Previous Year(s) Average Individual Award Amounts: \$230,000.00 annually
- *Anticipated Period of Performance: 2-3 years
- * Internal US Navy laboratories may compete for these funds via a parallel (non-BAA) announcement

III. ELIGIBILITY INFORMATION

This solicitation is open to all responsible sources other than Government entities and Federally Funded Research and Development Centers (FFRDCs).

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process -

Pre-proposals are encouraged prior to submitting a Full Proposal –

The due date for pre-proposals is no later than 4 p.m. (Local Eastern Time) on 04/11/05. The Navy's initial evaluation of the pre-proposals should give Offerors some indication of whether a Full Proposal might result in an award. Initial Navy evaluations of the pre-proposals will be issued via E-mail or a letter on or about 05/13/05. Detailed technical and cost proposals will be subsequently encouraged from those Offerors whose proposed technologies have been identified through the above-referenced E-mail or letter as being of "particular value" to the Navy. However, any such encouragement does not assure a subsequent award. Any Offeror may submit a Full Proposal even if its pre-proposal was not identified as being of "particular value" or even if no pre-proposal was submitted.

Full Proposals - The due date for receipt of Full Proposals is 4 p.m. (Local Eastern Time) on 06/27/05. It is anticipated that final selections will be made by 08/26/05. Proposals received after the published due date may be considered for funding at a later time if funding is available. As soon as the final proposal evaluation process is completed, the Offeror will be notified via email or letter of its selection or non-selection for an award. Proposals exceeding the page limit may not be evaluated.

2. Content and Format of Pre-Proposals/Full Proposals -

The Proposals submitted under this BAA are expected to be unclassified. However, confidential/classified proposals are permitted. The Proposal submissions will be protected from unauthorized disclosure in accordance with FAR 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information.

Pre-proposal Format

- Paper Size 8.5 x 11 inch paper
- Margins 1" inch
- Spacing 1.5 or double-spaced
- Font Times New Roman, 12 point
- Number of Pages No more than 3 single-sided pages (excluding cover page and resumes). Pre-proposals exceeding the page limit may not be evaluated.
- Copies one (1) original, 4 copies, and one electronic copy on a 3.5" Diskette or CD-ROM (in MS Word and Excel '97 compatible).

Full Proposal Format – Volume 1 - Technical and Volume 2 - Cost Proposal

- Paper Size 8.5 x 11 inch paper
- Margins 1" inch
- Spacing 1.5 or double-spaced
- Font Times New Roman, 12 point
- Number of Pages Volume 1 is limited to no more than 12 pages. Limitations within sections of the proposal are indicated in the individual descriptions shown below. The cover page, table of contents, and resumes are excluded from the page limitations. Full Proposals exceeding the page limit may not be evaluated.
- Copies one (1) original, five (5) copies and one electronic copy on a 3.5" Diskette or CD-ROM, (in MS Word or Excel '97 compatible).

Pre-proposal Content

- <u>Cover Page</u> The Cover Page shall be labeled "PRE-PROPOSAL" (or, in the case of postdoctoral submissions, "POSTDOCTORAL PRE-PROPOSAL"), and shall include the BAA number, proposed title, Offeror's administrative and technical points of contact, with telephone numbers, facsimile numbers, and Internet addresses, and shall be signed by an authorized officer.
- See http://www.onr.navy.mil/sci_tech/personnel/preproposal.htm for additional pre-proposal content requirements.

Full Proposal Content

Volume 1: Technical Proposal

- <u>Cover Page:</u> This should include the words "TECHNICAL PROPOSAL" (or, in the case of postdoctoral submissions, "POSTDOCTORAL TECHNICAL PROPOSAL") and the following:
 - 1) BAA number;
 - 2) Title of Proposal;

- 3) Identity of prime Offeror and complete list of subcontractors, if applicable;
- 4) Technical contact (name, address, phone/fax, electronic mail address)
- 5) Administrative/business contact (name, address, phone/fax, electronic mail address) and;
- 6) Duration of effort (differentiate basic effort and options)
- 7) Use of human subjects (Y/N):
- 8) Use of animals (Y/N): Approved DoD animal use protocol attached (Y/N):
- 9) Recombinant DNA research (Y/N):

• Table of Contents:

- <u>Statement of Work:</u> (≤5 pages) A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing SOW without any proprietary restrictions, which can be attached to the contract or agreement award. Include a detailed listing of the technical tasks/subtasks organized by year.
- **Project Schedule and Milestones:** (1 page) A summary of the schedule of events and milestones.
- Assertion of Data Rights: (Not included in page limitations) Include here a summary of any proprietary rights to pre-existing results, prototypes, or systems supporting and/or necessary for the use of the research, results, and/or prototype. Any data rights asserted in other parts of the proposal that would impact the rights in this section must be cross-referenced. If there are proprietary rights, the Offeror must explain how these affect its ability to deliver research data, subsystems and toolkits for integration. Additionally, Offerors must explain how the program goals are achievable in light of these proprietary limitations. If there are no claims of proprietary rights in pre-existing data, this section shall consist of a statement to that effect.
- <u>Deliverables:</u> A detailed description of the results and products to be delivered
- Management Approach: (≤5 pages) A discussion of the overall approach to the management of this effort, including brief discussions of the total organization, use of personnel; project/function/subcontractor relationships; government research interfaces; and planning, scheduling and control practice. Identify which personnel and subcontractors (if any) will be involved. Include a description of the facilities that are required for the proposed effort with a description of any Government Furnished

Equipment/Hardware/Software/Information required, by version and/or configuration.

Volume 2: Cost Proposal

The Cost Proposal shall consist of a cover page and two parts, Part 1 will provide a detailed cost breakdown of all costs by cost category by calendar or Gov't fiscal year and Part 2 will provide a cost breakdown by task/sub-task corresponding to the task numbers in the proposed Statement of Work. Options must be separately priced.

- **Cover Page:** The use of the SF 1411 is optional. The words "Cost Proposal" should appear on the cover page in addition to the following information:
 - 1) BAA number;
 - 2) Title of Proposal;
 - 3) Identity of prime Offeror and complete list of subcontractors, if applicable;
 - 4) Technical contact (name, address, phone/fax, electronic mail address)
 - 5) Administrative/business contact (name, address, phone/fax, electronic mail address) and;
 - 6) Duration of effort (differentiate basic effort and any proposed options)

• Part 1:

- 1) Direct Labor Individual labor category or person, with associated labor hours and unburdened direct labor rates
- 2) Indirect Costs Fringe Benefits, Overhead, G&A, COM, etc. (Must show base amount and rate)
- 3) Travel Number of trips, destination, duration, etc
- 4) Subcontract A cost proposal as detailed as the Offeror's cost proposal will be required to be submitted by the subcontractor. The subcontractor's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or will be requested from the subcontractor at a later date
- 5) Consultant Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate
- 6) Materials should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Include a brief description of the Offeror's procurement method to be used (Competition, engineering estimate, market survey, etc.)
- 7) Other Directs Costs, particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor/recipient. (Justifications must be provided when Government funding for such items is sought). Include a brief description of the

Offeror's procurement method to be used (Competition, engineering estimate, market survey, etc.)

8) Fee/Profit including fee percentage.

See http://www.onr.navy.mil/sci_tech/personnel/proposal2.htm for additional full proposal content requirements. In addition, postdoctoral submissions, if submitted by the postdoctoral candidate, should be accompanied by a letter from a suitable mentor indicating agreement to serve in that capacity.

If there are any discrepancies between this announcement and the referenced web-site concerning content requirements the information in this announcement takes precedence. When in doubt, contact the Technical or Business POC identified in this announcement.

• Part 2: Cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

3. Significant Dates and Times -

Schedule of Events		
Event	Date (MM/DD/YEAR)	Time (Local Eastern Time)
Pre-proposal Due Date	04/11/05	4 P.M.
Notification of Initial Navy Evaluations of Pre-proposals*	05/13/05	
Full Proposals Due Date	06/27/05	4 P.M.
Notification of Selection for Award *	08/26/05	
Contract Awards*	10/03/05	

^{*}These dates are estimates as of the date of this announcement.

4. Submission of Late Proposals –

Any proposal, modification, or revision, that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and

(a) If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

- (b) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or
- (c) It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extend to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The contracting officer must promptly notify any offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

5. Address for the Submission of Pre-Proposals, if applicable, and Full Proposals –

Office of Naval Research
Ballston Center Tower One
Attn: CAPT. Charles Auker, ONR 341
Room 817
800 North Quincy Street
Arlington, VA 22217-5660
For express mail purposes use CAPT. Charles Auker,
Telephone Number: 703-696-5268

NOTE: PROPOSALS SENT BY FAX OR E-MAIL WILL NOT BE CONSIDERED.

V. EVALUATION INFORMATION

1. Evaluation Criteria –

For proposed awards to be made as contracts to large businesses, the socio-economic merits of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities for small businesses,

small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions.

Criteria for Selecting Proposals, their Relative Importance, and the Method of Evaluation

The evaluations of pre-proposals and full proposals will be conducted using the following criteria, which are listed in descending order of importance: 1) overall innovation and scientific merit; 2) programmatic relevance of the proposal; 3) the qualifications and experience of the proposed principal investigator and key personnel; 4) the offeror's capabilities, related experience, facilities, techniques or unique combinations of these that are integral factors for achieving the proposal objectives; 5) realism of the proposed cost and extent to which the cost effectiveness of the proposed research is diminished by expenditures for excessive administrative and overhead expenses; 6) potential for enhancement of the undersea medicine research community (including inter-institutional collaboration, and/or training of young investigators in undersea medicine basic and applied research); and 7) socio-economic merits (for procurement contracts only).

Postdoctoral submission, in particular, will be evaluated for their likelihood to provide a robust training environment capable of producing the next generation of undersea medicine researchers. These submissions should provide enough information to allow for evaluation of both (1) the excellence of the proposed science and (2) the quality of the proposed training experience. Such issues as mentor's scientific and educational experience, existence of training facilities, teaching opportunities for postdoctoral candidates, access to collaborative and interdisciplinary scientific approaches, etc. should be emphasized in these proposals.

2. Evaluation Panel -

The evaluation of proposals will be performed by government technical experts from the Office of Naval Research and possibly other Federal entities. The Government may use selected non-government personnel to assist in the evaluators on technical issues and to help with the administration of pre-proposals and proposals ensuing from this solicitation. Such non-government personnel will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection information.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements –

- The North American Industry Classification System (NAICS) code The North American Industry Classification System (NAICS) code for this announcement is 541710 with a small business size standard of 500.
- CCR Successful Offerors not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to award of any grant, contract,

cooperative agreement, or other transaction agreement. Information on CCR registration is available at http://www.ccr.gov.

- Certifications Proposals should be accompanied by a completed certification package which can be accessed on the ONR Home Page at Contracts & Grants. For grant proposals and proposals for cooperative agreements or other transaction agreements (other than for prototypes), the certification package is entitled, "Certifications for Grants and Agreements."
 For contract proposals the certification package is entitled, "Representations and Certifications for Contracts."
- Subcontracting Plans Successful contract proposals that exceed \$500,000, submitted by all but small business concerns, will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9, prior to award.

2. Reporting -

The following deliverables, primarily in contractor format, are anticipated as necessary. However, specific deliverables should be proposed by each Offeror and finalized with the contracting agent:

- Technical and Financial Progress Reports
- Presentation Material
- Other Documents or Reports
- Final Report

RESTRICTION ON DISCLOSURE AND USE OF DATA: Offerors will apply the restrictive notice prescription of FAR 52.215-1, Instructions to Offerors -- Competitive Acquisition, to trade secrets or privileged commercial and financial information contained in their proposals.

VII. OTHER INFORMATION

Offerors are advised that only Contracting Officers are legally authorized to contractually bind or otherwise commit the Government. ONR's goal is to have awarded instruments in place by the end of calendar year 2005.

1. Government Property/Government Furnished Equipment (GFE) and Facilities

Each proposer must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. It is the Government's desire to have the contractors purchase the equipment/hardware for deliverable items under their contract. The purchase on a direct

reimbursement basis of special test equipment or other equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

Government research facilities and operational military units are available and should be considered as potential government furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for the BASIC AND APPLIED RESEARCH IN UNDERSEA MEDICINE. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain which of these facilities they recommend.

2. Use of Animals and Human Subjects in Research

If animals are to be utilized in the research effort proposed, the Offeror must submit a completed DoD Animal Use Protocol with supporting documentation (copies of AAALAC accreditation and /or NIH assurance, IACUC approval, research literature database searches, and the two most recent USDA inspection reports) prior to award. Similarly, for any proposal that involves the experimental use of human subjects, the Offeror must submit copies of the approval documentation from the Offeror's committee for protection of human subjects (normally referred to as an Institutional Review Board, (IRB)). The Offeror must also provide copies of the NIH (OHRP/DHHS) documentation of a Federal Wide Assurance and the consent form that covers the proposed human subjects study. If the Offeror does not have a Federal Wide Assurance, a DoD Single Project Assurance for that work must be completed prior to award. Please see http://www.onr.navy.mil/02/howto.htm for further information.

3. Recombinant DNA – Special information that is needed when experiments will be performed using recombinant DNA: proposals using recombinant DNA must include documentation of compliance with DHHS recombinant DNA regulations, approval of the Institutional Biosafety Committee (IBC), and copies of the DHHS Approval of the IBC letter.

4. Department of Defense High Performance Computing Program

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S & T and DT & E communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and assistance instruments may be eligible to use HPCMP assets in support of their funded activities if ONR Program Officer approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at http://www.hpcmo.hpc.mil/.